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Paper presented at the University of Nebraska Symposium on Motivation, 1955

Some social consequences of achievement motivation

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Psychology today is almost exclusively concerned with process rather than with content, with how a man adjusts rather than with what he thinks or does. Elsewhere (7) I have argued for a revival of interest in content problems, but the argument, stated abstractly, is bound to seem a little empty and vague. I want here to "put up or shut up", to show how I myself developed a renewed interest in "content" psychology by following through on some of the social implications of our research on the achievement motive. In the field of motivation the content vs. process distinction turns on such questions as these: What behavior can be predicted or accounted for from a knowledge of this particular motive as opposed to any other motive? What peculiar conditions account for the acquisition of this motive as opposed to other motives? What are the social consequences if a given group of people or culture contains a larger than normal number of individuals with strong motivation of a certain type? What about species differences in motivation? What motives do men have that rats do not?

Influenced by Hull and other functionalists, many of us for a long time tended to think of motives or drives as if they were functionally interchangeable, like electromotive forces in an equation in physics. From such a point of view it is as ridiculous to ask the question what kind of motive is involved as it is to ask what kind of electromotive force is involved. All motives are functionally equivalent and vary only in intensity. A motive is a motive is a motive is a motive, as Gertrude Stein might say.

It really doesn't matter whether you are working with light-aversion as a drive, or hunger, or thirst, or pain, since they are all functionally equivalent and it is merely a matter of convenience which one you choose to work with. It is also merely a matter of convenience which animal species you choose to work with since again, by assumption, a motive is a motive is a motive and it is therefore as useful theoretically to study the hunger drive in the white rat as it is to study the achievement motive in the human being. Today as we have begun to study motivation in its own right, and not just as a convenient construct to explain learning, such a point of view seems painfully inadequate. For one thing, as animal psychologists like Harlow (5) and Nissen (11) have been pointing out, there are major species differences in motivation which must be taken into account if we are to understand animal behavior adequately. For another, and this is the point I intend to elaborate here, recent studies of human motivation have demonstrated again and again that knowledge about one particular kind of motivation will enable us to predict varieties of behavior that we could not predict from knowledge of other motives. For example, knowledge of n Achievement scores will enable us to predict how well a group of people will do in a laboratory task (8), but knowledge of n Affiliation scores will not. Knowledge of n Affiliation scores will enable us to predict something about popularity (16) whereas knowledge of n Achievement scores will not. And so on. It is becoming increasingly clear that we must pay attention to the type of motive we are measuring, its particular origins, and its particular consequences, for human behavior and society.

As a case in point, let us try to do this for the achievement motive, the human motive about which we know the most at the present time. There is no need to review the methods we have used for deriving the n Achieve-

ment score or the data showing its connections with various types of behavior, since that has been done elsewhere (8) and particularly well by Atkinson at this Symposium last year (1). It will have to suffice here to say that we have developed what appears to be a promising method of measuring the achievement motive by identifying and counting the frequency with which a certain type of imagery appears in the thoughts of a person when he writes a brief story under time pressure. The type of imagery involved, which includes any references to "competition with a standard of excellence", can be identified objectively and reliably and differs in kind from other types of imagery which can be used to identify other motives such as the need for Affiliation, the need for Power, and the like. There are those who argue that what we are identifying in this way are not really motives at all, but something else, perhaps habits (4). I don't want to seem too lighthearted about psychological theory, but I should hate to see much energy expended in debating the point. If someone can plan and execute better research by calling these measures habits, so much the better. If, furthermore, it should turn out that all the interesting findings we have turned up are the result of some theoretical "error" in our thinking, I cannot admit to much regret. The fact of the matter is that we know too little about either motives or habits to get into a very useful discussion as to which is which. The important thing is that we accumulate data as rapidly and systematically as we can. Then I believe these theoretical issues will have a way of boiling themselves down to a meaningful level at which they can be settled.

But to return to our main story: we have continued to treat n Achievement as a motive and after hearing where this thinking has led us, you must decide for yourselves whether you want to conceive of it in the same way or

in some different way. I want to draw attention now to Winterbottom's very important study (8, 24) on the origins of n Achievement as we measure it. She found, as many of you will remember, that mothers who said they expected their sons to do well on their own at an early age tended to have sons with higher n Achievement scores. That is, mothers who expected their sons to be self-reliant early in life--to make their own friends, to find their own way around their part of town, to do well in competitive sports and the like--tended to have sons with strong achievement motives. Furthermore, this training for self-reliance or independence (23) did not include "care-taking" items such as putting oneself to bed, cutting one's own food, earning one's own spending money, etc., a fact which suggested that what was involved here was not rejection by the mother but rather a positive interest in the child's independence, growth, and development. Winterbottom established here a link between a socialization practice, namely independence training, and a motive, namely the desire to do well.

Considered in a social and historical context, this linkage suggested an interesting parallel with Weber's classic description of the nature and characterological consequences of the Protestant Reformation (22). In the first place, he stresses as others have, that the essence of the Protestant revolt against the Catholic church was a shift from a reliance on an institution to a great reliance on the self, so far as salvation was concerned. The individual Protestant Lutheran or Calvinist was less dependent on the church as an institution either for its priests or its sacraments or its official dogma. Instead there was to be a "priesthood of all believers", in Luther's words. The Protestant could read and interpret his Bible and find his own way to God without having to rely on the authority of the Church or

its official assistance. As Weber describes it, we have here what seems to be an example of a revolution in ideas which should increase the need for independence training. Certainly Protestant parents, if they were to prepare their children adequately for increased self-reliance so far as religious matters were concerned, would tend to stress increasingly often and early the necessity for the child's not depending on adult assistance but seeking his own "salvation". In the second place, Weber's description of the kind of personality type which the Protestant Reformation produced is startlingly similar to the picture we would draw of a person with high achievement motivation. He notes that Protestant working girls seemed to work harder and longer, that they saved their money for long-range goals, that Protestant entrepreneurs seemed to come to the top more often in the business world despite the initial advantages of wealth many Catholic families had, and so forth. In particular, he points out that the early Calvinist business man was prevented by his religious views from enjoying the results of his labors. He could not spend money on himself because of scruples about self-indulgence and display, and so, more often than not, he reinvested his profits in his business, which was one reason he prospered. What then drove him to such prodigious feats of business organization and development? Weber feels that such a man "gets nothing out of his wealth for himself, except the irrational sense of having done his job well" (22, p. 71). This is exactly how we define the achievement motive. So again, the parallel seems clear, although there is not space to give the argument in full here. Is it possible that the Protestant Reformation involves a repetition at a social and historical level of the linkage that Winterbottom found between independence training and a Achievement among some mothers and their sons in a small town in Michigan in 1950?

To make such an assumption involves a breathtaking leap of hypothesizing so far as the average psychologist is concerned, who is much more at home with a sample of 30 mothers and 30 sons than he is with major social movements. But the hypothesis seems too fascinating to dismiss without some further study. It can be diagrammed rather simply as in Table 1. In terms of this diagram Weber was chiefly concerned with the linkage between A and

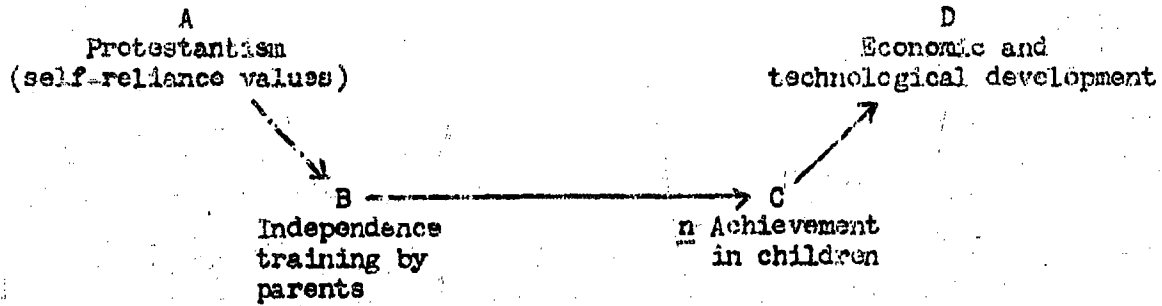
(Insert Table 1 here or near here.)

D, with the way in which Protestantism led to a change in the spirit of capitalism in the direction of a speeded-up, high-pressure, competitive business economy. But the manner in which he describes this relationship strongly suggests that the linkage by which these two events are connected involves steps B and C, namely a change in family socialization practices which in turn increased the number of individuals with high achievement motivation. Thus a full statement of the hypothesis would be that Protestantism produced an increased stress on independence training which produced higher achievement motivation which produced more vigorous entrepreneurial activity and rapid economic development. Such a simple statement of the hypothesis obscures many problems, some of which we have only begun to think about. To establish all the links in the chain obviously requires an enormous amount of research, much of which has not been completed. What I have to report today are only some preliminary findings which, however, serve to confirm the hypothesis at several crucial points and, at the very least, dignify it to the point of making it worth very serious investigation.

Let us consider first Weber's general argument about the connection between Protestantism and economic development. Although there has been much discussion among historians, economists, and sociologists of this thesis since it first appeared about 50 years ago, most of it pro though some of it

Table 1.

Hypothetical series of events
relating self-reliance values
with economic and technological development.



con (see 19), I could find no simple statistical test of the presumed association such as we would be apt to apply in psychology. Instead the literature seems to consist largely of citing instances which confirm the thesis, drawn chiefly from England, the Scandinavian countries and Holland, or instances which apparently disprove it such as Belgium or pre-Protestant Italy. Having had much experience in my youth with individual rats who obeyed none of Hull's laws, I wanted to get beyond the battle of instance and counter-instance to see what the general trend looked like. Table 2 shows the results of one such effort. What I tried to do was to get as large a group of Catholic and Protestant countries as I could which were matched roughly for climate and resources. Then I took the most easily obtainable index of

(Insert Table 2 here or near here.)

economic or technological development, namely kilowatt hours of electricity consumed as of a given year in a given country, and checked it against the Protestant-Catholic classification of the country, with the result shown in Table 2. A simple ranks correlation, a biserial tau, shows that the Protestant character of a country is significantly associated with higher levels of consumption of electrical energy. This may be a crude test of the hypothesis, but the relationship is large and seems not likely to disappear under refinements of techniques for measuring economic development or for equating the natural resources of the two groups of countries. At least it is comforting to a psychologist to have this much statistical backing for a hypothesis before expending a great deal of further energy in trying to study its further implications.

The next step involves tying in our own research findings on the origins of achievement motivation (stages B and C in Table 1). Specifically,

Table 2

Average per capita consumption of electric power in
Protestant and Catholic countries beyond the Tropics of
Cancer and Capricorn.
(For the year 1950, in Kilowatt-hours, from Hoytinski, 25)

Protestant.		Catholic	
Norway	5,310		
Canada	4,120		
Sweden	2,530		
U.S.A.	2,560		
Switzerland	2,230		
New Zealand	1,600		
Australia	1,160		
United Kingdom	1,115		
Finland	1,000		
		Belgium	986
		Austria	900
Union of South Africa	890		
		France	790
Holland	725	Czechoslovakia	730
		Italy	535
Denmark	500		
		Poland	375
		Hungary	304
		Ireland	300
		Chile	260
		Argentina	255
		Spain	225
		Uruguay	165
		Portugal	110
Mean	<u>1,983</u>	Mean	<u>457</u>

Biserial tau = .45 P < .005

we would predict that there should be a connection between A and B in Table 1, that Protestants should favor earlier independence training than Catholics do. The major findings on this point are reproduced in Table 3 from a study by McClelland, Rindlisbacher and deCharms (10). The figures in the

(Insert Table 3 here or near here.)

Table are based on responses to the 13 items in the original Winterbottom independence training questionnaire which she found to be associated with n Achievement. A mean age was computed for each parent at which he expected his child to have mastered the items in question. Then averages of these means were computed and cross-classified by sex of parent, by education of parent, and by religious grouping. All three primary sources of variation are significant. Religion makes a significant difference, the Protestants and Jews favoring early independence and the Irish- and Italian-Catholics favoring later independence for their children. The first link of our research with its social context has been established.

Culture also makes a difference. The Irish-Catholics fall between the Protestants and the Italian-Catholics and differ significantly from both. That is, although the Irish have the same religion as the Italians, they differ from them in the direction of favoring earlier independence like their English-speaking parent culture. And socio-economic status makes a difference, at least to the extent that it is reflected here in the educational levels of the parents. As one goes up the socio-economic scale (or has more education), independence training is expected. An obvious implication of this shift is that children of higher socio-economic status should have higher achievement motivation than those of lower socio-economic status, if the Winterbottom finding continues to hold true. Rosen (14) has recently obtained

Table 3.

Average Ages at which Parents
Expect Children to have Mastered
Various Independence Training Items

	less than high school graduates	High school graduate up to college graduate	College graduate or more	Means	Religious group means
Protestant					6.64
Father	8.04	6.47	6.90	7.12	
Mother	6.56	6.41	5.55	6.17	
Jewish					6.59
Father	7.65	7.12	6.48	7.08	
Mother	6.74	6.66	5.89	6.10	
Irish Catholic					7.66
Father	8.50	7.92	8.26	8.23	
Mother	7.23	7.61	6.40	7.08	
Italian Catholic					8.42
Father	9.04	10.43	6.51	8.66	
Mother	7.68	6.87	8.00	7.18	
Educational level means	7.81	7.43	6.75		
Fathers' mean	7.77				
Mothers' mean	7.88				

Analysis of Variance

Source of variation	Sum of squares	df.	Mean square	F
1. Religion	13.91	3	4.64	12.21**
2. Educational level	1.84	2	2.30	6.05**
3. Sex of parent	4.74	1	4.74	12.47**
4. Interaction ¹	11.18	17	.66	1.82*
5. Error		128	.32	

* Significant at the 10% level

** Significant at the 1% level

1. The principal source of variation proved significantly, a factor which cannot be ignored. It is a preliminary statement of the results. For this reason, the interaction term is not included in the final table of error based on the results of the analysis of variance. The interaction term is included in the table for completeness.

data which strongly support this hypothesis. Achievement motivation scores of middle and upper class high school students are significantly higher than those of lower class students.

The fact that sex of parent also influences the age at which self-reliance is expected is a finding too new to have been explored thoroughly, but Stodtbeck (17) has done some detailed research on the family transmission process which shows that the attitude of the mother and father in this matter may differentially influence the motives and values of their sons. For example, he has shown that as one goes up the socio-economic scale, the father sets higher standards of independence and achievement for his son -- a factor which tends to produce the same values in the son but which may be counteracted by the fact that these same fathers tend to be more powerful in the family circle and make their sons in fact more dependent on them. This discrepancy between the father's preaching and practice may introduce a cyclical effect in the transmission of n Achievement from father to son which does not occur when the transmission is from mother to son. These findings are not absolutely clear as yet, but they are introduced here to illustrate the fact that the transmission of parental value attitudes to children and the production of achievement motivation by this process are complicated matters which ultimately will force a considerable elaboration of simple statements to the effect that independence training leads to higher achievement motivation or that belief in self-reliance automatically leads to earlier independence training which automatically produces higher achievement motivation.

It should go without saying that the association demonstrated here is not exclusively between Protestantism as a religion and independence train-

ing. This is one reason why the data on Jews in the study (Table 2), obviously what is involved are certain values which are associated with Protestantism (and perhaps more with Catholicism than with Judaism, etc.) but which might equally well be associated with other religions or cultures as well. Note again the way in which the Irish seem to be partly influenced by a cultural and partly by a religious heritage. Or to take another example, Japan alone of the Asiatic countries has shown rapid economic advance to date, a fact which suggests that something in the value structure of the Japanese was sufficiently similar to the value structure of Protestantism to produce similar or analogous characterological results. In other words, the true variable here is neither Protestantism nor Japanese Zen Buddhism, but certain specific identifiable values associated with each of these religions presumably. We have started research into just what these values are and into their distribution among the various religions and cultures of the world, but it is still too early to report any definitive results.

To return to the general hypothesis sketched in Table 1, now that we have shown a connection between A and B, the logical next step is to demonstrate a connection between B and C, between independence training and n Achievement. Since this is the relationship, established by Kinterbottom, which gave rise to the hypothesis, and which is pivotal to its whole structure, it deserves very careful scrutiny. In the first place it deserves the replication which it has not had as yet because we have been too busy establishing other links in the chain of hypothetically associated events. We need to be certain that it was not in any way a unique relationship obtained for a group of 50 mothers and their 8- to 10-year old sons in a particular town in Michigan. For example, was the result in any way dependent on the fact that these mothers had sons of this particular age at the time they were questioned? Could the same results be obtainable when the boys were 14 or 15 years old? In the second

place, we have not, of course, demonstrated that independence training causes high n Achievement, since the relationship may be the other way around: boys with high n Achievement may force their mothers to let them have more independence earlier. Fortunately, the experimental design for settling this question is simple though its execution is not. The mothers should be given the independence training questionnaires before their sons are born and the sons tested when they are 8-10 years old. Then we could tell whether the mothers' values or the sons' motivation was the precipitating cause of the relationship.

To ask a different kind of question, what is the relationship between what the mothers say their attitude toward independence training is and what they actually do? Studies by Strodbeck (17) indicate that there is by no means a 1-to-1 relationship between what people say about their socialization practices and what they do. Thus, fathers of high socio-economic status believe strongly in independence for their sons but apparently cannot help making so many suggestions in the concrete family interaction situation that they do not give their sons the opportunity to show the independence they believe in. To some extent it is an advantage, however, to be dealing with mother attitudes rather than mother behavior, because the attitudes presumably reflect values in a more simple and direct way than action would which is presumably also determined by the mother's motives, the concrete situation, etc. That is, when mothers are asked at what age they expect their child to make his own friends, they obviously cannot be too accurate in their answers either because they cannot remember, or because the process was a slow and gradual one. So the answer we do get is really like an answer to a projective question. It tells us whether the mother in general expects her child

to act on his own or whether she expects him to continue to be guided by the advice of those who know better, presumably, than he does. Asking for the age at which self-reliance is expected apparently gets at this value attitude more successfully than a direct question, because, at least in our culture, self-reliance is a strongly valued trait which presumably any mother would want in her child. To get at the degree to which she wants it, it is necessary to get at the value indirectly by asking the age at which she expects it.

But what is needed most in the study of this problem are some cross-cultural comparisons. The hypothesis as it stands is completely general: early independence training, whether in Michigan, Moscow, Peiping, or the Admiralty Islands, in 1760, 1830, or 1950 should lead to higher n Achievement in male children. We have as yet made no studies of female children although we have some reason to believe that the matter is somewhat more complicated here. But what about those countries like Germany and Japan whose people have apparently shown a high level of n Achievement and economic development, yet whose parents apparently stress loyalty and devotion to the family and nation much more than they stress self-reliance and self-development as we do in the United States? It is to answer just such questions as these and others mentioned earlier that we are now conducting a replication of the basic experiment in Germany. Will German parents stress early independence, and will those who do tend to have sons with higher n Achievement? I wish I could answer these questions for you today, but the data are not yet available. However, Sangre (15) has already completed a study on a small group of Japanese-American parents and their sons which suggests that we are going to have to modify somewhat our conception of independence training (23). She found that for this group of mothers and sons there was substantially the

same order of positive correlation between mothers' attitudes toward independence training and sons' n Achievement score as Winterbottom found, although because the sample was small it failed to reach an accepted level of significance. She also found, as predicted, that Japanese boys as a group scored considerably higher in n Achievement than other comparable groups of boys. So far so good. But finally she found that the Japanese-American mothers favored later independence training as a group than any other group tested including the Italians in the study reported above. A further study of the value attitudes of the mothers showed why this was so. Many of them felt and said that they never expected their sons to be independent in the sense implied by the way the questions on our schedule were phrased. That is, Japanese expect their children to be polite, cooperative, and devoted to their family so that phrases on the questionnaire like "to stand up for his own rights" and "to do well on his own" seemed to be in contradiction to these values and the mothers felt that they never wanted their sons to be like that. Does this constitute a contradiction of the basic hypothesis about the relationship between independence training and n Achievement? Is it possible that the Japanese boys get their higher n Achievement by some other mechanism? Perhaps, but it is also plausible to argue that the defect here is not with the hypothesis but with the measuring instrument, namely the independence training questionnaire. Benedict (2) in her discussion of Japanese child-rearing stresses over and over again the way in which Japanese parents feel that children should be allowed great freedom of self-development, to have their "egos strengthened" before the onset of politeness and cooperation training begins at around age 7 or 10. If the fact is correct, the goal is that we will have to rephrase the questions in such a way that they reflect the Japanese attitude toward independence training.

to which the Japanese parents really favor early mastery for their children. That is, our questions were designed for a culture which in general favors self-reliance even among adults; the Japanese apparently favor early mastery not as preparation for self-reliance, but as a prelude to a better and more effective performance as a cooperative member of a group. These findings and hypotheses are all necessarily tentative, but they do suggest that work in other cultures will eventually enable us to state this particular hypothesis in a culture-free manner. Incidentally, of course, these variations in the way in which mastery training are conceived should make obvious differences in the way people behave later on, but for the moment we are restricting our attention to a rather narrowly defined set of variables.

The final link in the chain, that between C and D in Table 1, or between high n Achievement and economic development, is the one on which we have been working most recently. I want to confess here to doubts we had as to how this would come out. We knew that n Achievement as we measured it was significantly correlated with better performance on a wide variety of laboratory tasks (8) and Ricciuti (12) has shown that it is significantly correlated with high school grades with ability level partialled out. But none of this would lead us to predict on the basis of our own work that n Achievement would be connected in a peculiar way with more vigorous economic activity. Why not make the simpler assumption that it would be connected with more vigorous activity in any line of endeavor? Wouldn't it be logical to predict on the basis of our task performance or school work data that the high n Achievement should make a person do better at poetry or politics, law or science, farming or selling real estate? Why pick up business or industry? That n Achievement would direct people's interests along business lines is a rather peculiar assumption. It is interesting that this is the only one

ward a connection with business activity, at least if we are to take Weber's arguments at all seriously, and continue to entertain the hypothesis sketched in Table 1.

So with some misgivings as to the outcome, we decided to put the hypothesis to the test by seeing whether students with high n Achievement were more interested in business occupations than students with low n Achievement. The null hypothesis is of course that n Achievement makes no difference in inclining a person toward one occupation rather than another. To measure occupational interest we simply used the Strong Vocational Interest Blank, which was filled out by a group of college freshmen at the same time that they had been tested for n Achievement. To test the hypothesis we simply took the top 20% of the class in n Achievement and compared their answers to each of the Strong items with the answers given by the bottom 20% of the class in n Achievement. The results were really startling, at least to us, since we had had so many doubts about the whole enterprise from the beginning. You will recall that on the Strong Test the respondent is asked whether he likes, dislikes, or is indifferent to, 100 different occupations on the first part of the test. In Table 4 are listed the only occupations for which consistent and significant differences appeared between the top and bottom fifths of the n Achievement distribution. In every case the group high in n Achievement likes the occupations listed better than the group low in n Achievement. What more striking confirmation of the hypothesis could be expected? The chi-square for "stockbroker", the most significant single item, was 10.04, $p < .01$. Shades of Marxist propaganda about the role of "Wall Street" in the capitalist economy!

(Insert Table 4 here or near here.)

... a ... hypothesis ...

Table 4.

Occupations in the first 100 on the Strong Vocational Interest Blank preferred significantly more by college Freshmen with high (top 20%) than with low (bottom 20%) Achievement scores. (Listed in order of significance of differences.)

1. Stock broker
2. Office Manager
3. Sales Manager
4. Buyer of merchandise
5. Real estate salesman
6. Factory manager

ing this many significance tests, one ought to come out with about this number of significant differences. We know that, and we are for that reason replicating the study right at this moment, but what are the chances that Lady Luck should hit on these particular occupations when she had so many to pick from, including everything from artist to author to musician to lawyer or electrical repairman? To be more precise, the chances are less than 1 in 4,000, since roughly one-quarter of the occupations might be classified as related to business. Certainly if she did happen to pick on occupations so obviously related to business activity and economic development just by chance, she has played us a dirty trick in getting our scientific hopes aroused. In any case, the evidence does not consist of these items alone. Further item analysis of the rest of the test shows many confirmatory results, although their exact significance will have to await further study and, in particular, a replication.

Of course this preliminary result still leaves much to be desired. We can assume on the basis of Strong's validation data that there is some connection between a person's interest in an occupation and the chances that he will enter and do well at it, but one could wish for a more direct test of the hypothesis that the mean or modal level of n Achievement in a culture is associated with its level of economic development. Taking our clue from an earlier study by McClelland and Friedman (9) on achievement imagery in American Indian folktales, we are currently trying to provide a more direct test of this hypothesis by doing content analyses of various cultural products like children's readers and correlating the achievement imagery discovered in them with the level of economic development of the country.

It would be quite wrong, of course, to think that we are trying to conclude from all of this that economic development is exclusively the result of

achievement motivation, independence training or whatnot. Obviously many of the traditional factors are important, such as the social structure, the type of political organization, the nature and extent of natural resources, the general level of literacy, etc. Economic development is certainly a much more complex problem than we have seemed to think it here, but what we are interested in showing is that one factor which may loom fairly large in economic development is a certain kind of motivational structure in the individual. At a certain stage in economic development, at least, there appears to be a need for a fairly large number of individuals with high Achievement. In many ways they would seem to be the ones whom Riesman (13) has called "inner-directed", and his discussion of the role such people play in the development of modern society can be consulted for an expansion of the argument which I have only had time to outline briefly here. Unfortunately, also, because of time limitations, I cannot deal adequately with those economic determinists who would argue that character or motivation is the result, rather than the cause of economic development, but before they assume too easily that the direction of the relationship sketches in Table I might just as well be the other way around, let me hasten to say that content analyses of dated cultural documents should show conclusively whether the increase in achievement motivation preceded or followed economic development.

So far the discussion has centered around a direct, straightforward development of the case for the connection between values, socialization practices, Achievement and economic development. This has been done partly because it was to test a hypothesis about the origins of the spirit of modern capitalism that the whole inquiry started, and partly because it is easier to follow the argument if one does not skip links in the chain of events or jump around from one subject to another. However, there are a

number of interesting implications for further study that have arisen in the course of thinking out the hypothesis. Take the question of social change, for example. Margaret Mead has recently returned from re-studying the Manus, a small tribe in New Guinea which she had studied previously nearly 25 years ago. She found that exceedingly rapid social change had taken place since her last visit, for these people although not for others in the vicinity who had had similar experiences in the meantime. Whereas then they had scarcely been touched by modern civilization at all, now they seemed to be living completely in the 20th century even to the extent of having organized a parent-teacher association which was concerned about the best way of rearing children! They knew how to operate modern machinery, had organized a democratic form of government, and in general seemed to be a forward-looking, progressive people, who, in her words, had recapitulated approximately 25,000 years of history in 25 years. What had produced the change? The obvious precipitating factor was the presence of the U.S. Armed Forces in the Pacific with which this tribe had had extended contact. From the Americans they had learned how to operate machines, how to organize a government or a P.T.A., and in general picked up with amazing rapidity the general "know how" that goes with modern civilization. But the interesting point is that the Manus accepted modern technological civilization so rapidly and enthusiastically whereas other tribes like the nearby Usiai, similarly exposed to the West, had not. Why?

One clue to an answer may lie in the fact that these were a people who, she had noted in 1930, stressed early independence training for their children. At that time they lived in thatched-covered houses on platforms set up on poles out over the sea. It was therefore easy for young children to fall off into the sea and drown. The Manus had responded to this Toynbeeian "chal-

lenge" by requiring that their children learn to swim and take care of themselves in the water quite early. In fact, they built them small canoes and literally taught them to "paddle their own canoes" at a very early age. Does it seem too far-fetched to assume that we have evidence for a linkage here between stage B in Table I, e.g., early independence training, and stage D, rapid technological development once contact with superior knowledge is made? Further study can alone tell, but it is at least significant to note also that the Manus in 1930 were the business men and bankers of their region to whom all the neighboring tribes were in debt! Their presumed high n Achievement could in those days express itself only within the limits of the prevailing brokerage system, but once exposed to our system, one might predict that they would "catch on" with amazing rapidity. Although this is only a case study which may be an isolated example, it certainly suggests that the hypothesis would be worth testing that the speed of adapting to modern technological society may be greatly aided by the right character or motivational structure (e.g., high n Achievement, early self-reliance training, etc.) The opposite proposition should also be tested: societies with a general low level of n Achievement, without the necessary character structure, should have considerable difficulty in developing themselves economically along Western lines (e.g., Russia, China). They may have to resort to force, for example, to get people to do the things that they would naturally want to do if they had sufficiently high achievement motives. To Marx this was simply placing the motive of serving the State for the welfare of all above the nasty, selfish profit motive, but then maybe he confused the profit motive with the achievement motive, which is not too surprising in view of the connection we seem to be finding between the two. At any rate, it is exciting to contemplate re-thinking the issues raised by Marxist and anti-

Marxist theorists in terms of motivational theory as it develops out of empirical research like this and comforting to think that at least some of the issues may be solved by an appeal to fact rather than to debating skill.

There is time for consideration of only one further implication of our general scheme outlined in Table 1, an implication which arises from a possible association between A and C, between religious differences and n A-achievement scores. To date the relationship must be considered only possible or hypothetical because the definitive study on the problem has not yet been done. Nevertheless there is considerable indirect evidence that such a relationship will be found to exist on further study. Take the question of the Jews, for example. In Table 2 there is evidence that they favor earlier independence training than Italian- or Irish-Catholics, and we have evidence that early independence training is associated with higher achievement motivation. At the other end of the scale we know that Jews are distinctly an over-achieving group both scholastically (3) and occupationally (6, 18, 20). To cite just one illustrative fact, 80-85% of the gainfully employed Jews in the United States work in upper level occupations in which only 30-40% of the rest of the population are engaged (18). What accounts for such over-achievement? Probably not innate differences in intelligence, since we have no evidence for racial differences in native capacity. Probably not race prejudice, because we have instances of other similarly handicapped groups which do not counter-strive so vigorously when discriminated against. Probably not religion as such, since there must be many in this group who are not religious in any ordinary sense of the term. Instead it seems both simple and feasible to attribute this over-achievement to a generally higher level of achievement motivation among Jews, which itself is attributable to certain cultural values which probably have their roots in religion ultimately. At

the very least, such a line of inquiry is worth further careful study. Psychologists have been understandably reluctant to draw attention to cultural differences in achievement, for fear of feeding ammunition to bigots, but when such differences are left covered up and unexplained, the natural tendency of the man in the street is to attribute them to racial or religious factors in a totally inaccurate and uncomprehending way. At least it is my hope that a study of cultural differences in motivational levels will make a contribution to an understanding of why differences exist among racial, religious, or cultural groups and thus ultimately to an understanding of some of the reasons why these groups are prejudiced against one another.

Now let us turn in conclusion to the question raised at the beginning of the paper. How many of the problems just discussed would have been raised or illuminated by a study of the hunger motive? Even raising the question will, I hope, convince you that in matters like these the kind of motive under consideration is all-important. It is the achievement motive, not just any motive perceived as a contentless "force", that we have tied to religious and cultural background factors, to economic development, to differences in occupational achievement. And I hope you will agree with me that these are matters of importance. They are behavioral problems which psychology ought to be concerned with just as much as it is concerned with the functional connection between any motive and the association process, and if we can break this much ground, even as tentatively as I have had to today, what couldn't we do if we knew as much about other motives as we do about the achievement motive--about the need for power, the need for Affiliation, and the like? The study of human motives--in the sense of accurately measuring them with due attention to their differences in kind and their social consequences--is just beginning. We can look forward to great advances in our understanding of human behavior if such study gets the attention it deserves.

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